

IEEETRAN.DOT User's Guide

Cameron Roger, Howard R. Mint, *Member, IEEE*, and Peter Roman, *Member, IEEE*

Abstract--This only looks like the abstract.

Index terms-- template, markup, discount

I. INTRODUCTION

IEEETRAN.DOT is the official IEEE Transactions/Journals author's template for Microsoft Word for Windows. The current template covers Word versions 6 and 7. The template is essentially a set of styles that extend Word's *NORMAL.DOT* template.

Papers submitted to IEEE Publishing Services that adhere to these guidelines are eligible for a discounted production rate, because the work you do to prepare your document saves us time and effort in converting it for use in our composition software.

II. THIS GUIDE AS SAMPLE DOCUMENT

This guide shows what various styles in *IEEETRAN.DOT* look like. An attempt has been made to approximate the look-and-feel of IEEE Transactions papers, although we realize that this can only be a very rough approximation. Final IEEE papers are typeset using composition software that allows greater control over layout and fonts than is possible in Word.

The look-and-feel of *IEEETRAN.DOT* papers, then, is offered for aesthetic reasons and to emphasize that your paper will be set in two-column format, which may become a factor in your breaking of equations. You may also get a better feel for your final page count, though this too can only be an approximation.

Recognizing that what *IEEETRAN.DOT* does in the way of typesetting is only a temporary simulation of your paper's published appearance, you may well opt for different style parameters while editing, either by resetting via the Style... item under the Format menu or by running the *Fix Page*

Layout macro under the IEEE Macros menu and choosing not to go with two-column, single-spaced format. Another possibility is to select *Normal* under the *View* menu, to improve visibility on the screen. None of these alterations will affect your paper's ability to be converted for production use.

III. GETTING STARTED

A. Creating A New Paper

If you wish to begin writing a paper from scratch using the *IEEETRAN.DOT* template, or create an empty document in the template for cutting and pasting text from an existing file in some non-Word format, follow these steps:

1. Copy *IEEETRAN.DOT* into your templates directory, e.g., C:\MSoffice\Templates, so that it will be available from within Word.
2. Start up Microsoft Word.
3. In the File menu, select New. In the New dialog, select *IEEETRAN.DOT*.
4. *IEEETRAN.DOT*'s startup macro will pop up a dialog box asking you to type in text for several of your paper's elements. If you don't have all of the information in front of you, or if you are uncertain of the final content of these areas, you can type in some text or simply leave the default text in place. You can always edit these elements later, in the document proper. The macro will not be repeated when you re-open the document.

Your cursor should now be positioned near the top of the paper, ready for you to begin writing.¹

B. Converting an Existing Word Paper

Papers originally composed in Word version 5 or earlier will have to be converted to Word 6 or 7 format in order to attach *IEEETRAN.DOT*. Once this is done, the paper will still lack styles specific to *IEEETRAN.DOT*. Additionally, you may not have used Word styles at all to mark up

This is the author affiliation (AuthorInfo style) area. The authors are adjuncts to IEEE Publishing Services, 445 Hose lane, Piscataway NJ.

¹ This is a regular, numbered footnote.

the paper when you created it. In any event, some re-styling with *IEEETRAN.DOT* will have to be done in order to submit your Word file in compliance with these guidelines. To prepare your paper for re-styling, follow these steps:

1. Copy *IEEETRAN.DOT* into your templates directory, e.g., C:\MSoffice\Templates, so that it will be available from within Word.
2. Start up Word and open the existing Word 6 or 7 document.
3. Under the File menu, select *Templates...*, the top of the resulting dialog box will show *NORMAL.DOT*, or perhaps another template, as the current attachment.
4. Click on the *Attach...* button. This will bring up the contents of your templates directory. Double click on *IEEETRAN.DOT*.
5. Still in the *Templates...* dialog, click the checkbox marked "Automatically update styles," then click OK.
6. Finally, run the *Fix Page Layout* macro from the *IEEE Macros* menu.

You will now need to go through your paper from start to finish, using the style menu or the *Re-style or Edit* macro under *IEEE Macros* to re-define the elements listed in section VI of this guide. Styles in the existing paper that have exactly the same names under *IEEETRAN.DOT*, such as Heading 1, do not need to be re-styled.

IV. MATH

In addition to using *IEEETRAN.DOT*, you must make sure to use either the Microsoft Equation Editor or the *MathType* add-on for all math objects in your paper.

A math object is defined as any equation or fragment containing mathematical symbols (including Greek characters, super- and subscripts) that appears either in-line (in the flow of normal text) or as a display equation (in its own space between lines of text). In particular, you must avoid using Word fonts or character calls for in-line "quickies" such as single variables with super- or subscripts. Preparing your math with the equation editor or *MathType* allows us to automate conversion of most of the math in your paper to our in-house math format, *TeX*, while allowing you to format math for the hard copy of your paper that you will submit along with your Word file and ascii dump.

The *MathType* add-on for Word is a commercial product that you may or may not have purchased already for your own use. If you have *MathType*, we encourage you to use it for as much of your math as possible. If not, you can use the Microsoft Equation Editor, which comes as a part of Word at no extra charge.

V. MARKUP

Markup defines the parts of your paper: the title, headings, lists, and so forth. Each of these elements is given an appropriate name, and certain formatting instructions are associated with that name, so that title text, for instance, always looks a certain way. In Word, the mechanism for associating an element name with its formatting conventions is called a style.

Style names appear in the pull down style menu along the left hand side of your Word window. Typically, you highlight an area of text that you wished to designate with a certain style, then select the appropriate name on the style menu.

This does two things. First, it associates the style name with the highlighted text. This connection is hidden within the Word file. Second, it applies the formatting rules associated with the style to the highlighted text. *IEEETRAN.DOT* offers an alternative method for applying certain styles (the *Re-style or Edit* macro), but keep in mind that highlighting, then selecting a style from the styles menu can always be used to re-style.

Re-style or Edit macro does not handle all style names, just those most commonly used in IEEE journal papers, mostly style names unique to *IEEETRAN.DOT*.

The macro allows you to add or edit styles without first highlighting any text. If the style already exists, the macro will find the first instance of it and place your cursor there. If no instance of the style can be found, the macro will activate the style at the current cursor position, ready for your input. In this case, remember that the style will remain active until you "turn it off" by selecting a different style or by moving your cursor to another point in the document.

VI. IEEE PAPER STYLES

A. Style Reference

Here's an alphabetical reference for styles used in IEEE papers. Some, like "Heading 1," are borrowed from Word's *NORMAL.DOT*; others are unique to *IEEETRAN.DOT*. Note that paragraphs do not require special styling and should be left with the "Normal" style.

Abstract -- Includes all text for your abstract. Formatting is 9-point bold italic.

Authors -- Comprises the entire comma-delimited list of authors, starting with the principal author. Appears in frame centered on the page, and should appear after the Title area.

Depending on the size of Title content, this frame may have to be repositioned manually. Nested within this style may be one or more MemberType style areas.

AuthorInfo -- AuthorInfo can be created with the Add Author Info macro, which contains author affiliation information. This style should be unique within the paper. It produces a special footnote on the first page. The footnote has a non-printing symbol as its reference marker so as not to interfere with the numbering of regular footnotes later in the paper.

Heading 1 -- Top-level heading. Auto-numbered, so you shouldn't add Roman numerals of your own. Appears centered on the column with smallcaps.

Heading 2 -- Level-two heading. Auto-numbered, so you shouldn't add capital letters of your own.

Heading 3 -- Level-three heading. Auto-numbered, so you shouldn't add Arabic numerals of your own. Note that only heading levels 1 through 3 are supported in IEEE style.

IndexTerms -- Optional list of index terms (keywords). If you supply no index terms, this style should be removed entirely.

Lemma -- Heading (only) for a lemma.

List Number-- Regular, numbered, and bulleted lists. Used just as within Word normally. Each entire list receives the list style, and carriage returns within the list area define list items.

MemberType -- The member grade, if any, of an author, as part of the Authors area. Each MemberType instance is preceded (and followed, if necessary) by a comma as part of the comma-delimited list of authors.

References -- Reference section (called bibliography outside the IEEE). A special kind of numbered list. There should be only one *References* style area in your paper. Auto-numbered, so you shouldn't add numbering of your own. Entire section receives References style, and paragraphs within the area define individual references.

Theorem -- Heading (only) for a theorem. Derived from *Heading 3*.

Title -- Full paper title. Should be the first item in the paper. Appears in 24-point Times New Roman type within a frame centered on the page. Depending on the size of Title contents, the Authors frame may have to be repositioned manually.

B. Order of Appearance

Here's a list of IEEE-unique styles in order of appearance:

Title

Authors (including MemberType areas)

AuthorInfo (special footnote)

Abstract

IndexTerms

Heading 1

Heading 2

Heading 3

Acknowledgment

References

Since Word will allow you to use any style over and over, *IEEETRAN.DOT* provides the *Check Styles* macro to check your paper for redundant elements. All other styles may be repeated as often as necessary.

VII. IEEE MACROS

Here's a reference list of the four macros listed under the *IEEE Macros* menu that activates when you create a new document using *IEEETRAN.DOT* or attach *IEEETRAN.DOT* to an existing Word document.

Fix Page Layout -- Performs a number of formatting and page layout functions. Normally run after attaching *IEEETRAN.DOT* to an existing Word paper, but it can be run at any time.

Re-style or Edit -- Goes to the next instance of the selected style, if it finds one. Otherwise, restyles the text surrounding the current cursor position. If current cursor position is within an IEEE-unique style, prompts you before re-styling.

Add Author Info -- Creates the author affiliation area as a special footnote on the first page. Use this macro to re-create a deleted author info area or add one for the first time. There should be only one instance of this style.

Check Styles -- Tells you how many instances you have of the styles that are supposed to be unique, e.g., you know something's wrong if your paper has three titles. But note that multiple style areas may sometimes be counted if you have carriage returns within a single style area. Carriage returns within these areas should be deleted.

VIII. SUBMITTING YOUR PAPER

As outlined in the general Transactions/Journals paper author's guide, your complete submission should include hard copy and an ascii dump of your paper, plus any

graphics files and captions for figures, prepared as required in that guide. In addition, you should send at the same time (via whatever medium) a copy of your Word binary file. Always make sure to keep your original, in case your paper needs to be retransmitted.